Initializing declaration

Form of initializing declaration, a combination of a declaration and an assignment of a value to it.

\[
\text{<type> <variable>= <expression>;}
\]

Equivalent to

\[
\text{<type> <variable>;
<variable>= <expression>'}
\]

Instead of

\[
\text{int c;
c= 25;}
\]

write

\[
\text{int c= 25;}
\]
Variable and expression types must match

\[ <\text{variable}> = <\text{expression}>; \]

e.g. both \textbf{boolean}, or both \textbf{String}

<table>
<thead>
<tr>
<th>Type</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Bits</th>
</tr>
</thead>
<tbody>
<tr>
<td>byte</td>
<td>(-2^7)</td>
<td>(2^7 - 1)</td>
<td>8</td>
</tr>
<tr>
<td>short</td>
<td>(-2^{15})</td>
<td>(2^{15} - 1)</td>
<td>16</td>
</tr>
<tr>
<td>int</td>
<td>(-2^{31})</td>
<td>(2^{31} - 1)</td>
<td>32</td>
</tr>
<tr>
<td>long</td>
<td>(-2^{63})</td>
<td>(2^{63} - 1)</td>
<td>64</td>
</tr>
<tr>
<td>float</td>
<td>-</td>
<td>-</td>
<td>32-bit real numbers</td>
</tr>
<tr>
<td>double</td>
<td>-</td>
<td>-</td>
<td>64-bit real numbers</td>
</tr>
</tbody>
</table>

Assigning a wider-type value to a narrower-type variable may lose information.

How can 6000 be stored in a byte variable?